

WHAT IS CLAIMED IS:

1. A system for monitoring a temperature prevailing in a stator unit of an electric drive, comprising:

a position measurement device connected to the drive including a signal processor unit;

an electrical transmitter unit; and

a temperature sensor integrated into windings of the stator unit and configured to deliver a temperature-dependent sensor signal, the electrical transmitter unit configured to input the sensor signal into the signal processor unit.

2. The system according to claim 1, wherein the temperature sensor includes a temperature-dependent resistor integrated into the windings of the stator unit.

3. The system according to claim 2, wherein the electrical transmitter unit includes at least two inductively coupled coils, a first one of the coils associated with the signal processor unit, a second one of the coils associated with the temperature sensor.

4. The system according to claim 3, wherein the first one of the coils is arranged to be acted on by activation signals via the electrical transmitter unit to detect the temperature-dependent sensor signal.

5. The system according to claim 4, wherein the electrical transmitter unit includes at least one measuring shunt having a constant resistance value.

6. The system according to claim 5, further comprising:  
an arrangement configured to generate a sinusoidal alternating excitation signal; and

a voltage divider circuit, the voltage divider circuit, the measuring shunt and a temperature-dependent resistance of the temperature sensor transformed by the transmitter unit adapted to detect the temperature-dependent sensor signal.

7. The system according to claim 5, further comprising:  
an arrangement configured to generate a pulsed excitation signal; and

a voltage divider circuit, the voltage divider circuit, the measuring shunt and a temperature dependent resistance of the temperature sensor transformed by the transmitter unit adapted to detect the temperature-dependent sensor signal.

8. The system according to claim 4, wherein the transmitter unit includes an oscillator circuit, the system further comprising an arrangement configured to determine a frequency of a periodic reply signal to detect the temperature-dependent sensor signal.

9. The system according to claim 1, wherein the signal processor unit includes an arrangement configured to determine the temperature in accordance with the sensor signals.

10. The system according to claim 9, wherein the signal processor unit includes a signal transmitter configured to transmit at least temperature data to a subsequent electronic device.

11. The system according to claim 10, wherein the signal transmitter is configured for serial data transmission to the sequential electronic device.

12. The system according to claim 5, further comprising:  
means for generating one of a sinusoidal alternating excitation signal and a pulsed excitation signal; and

a voltage divider circuit, the voltage divider circuit, the measuring shunt and a temperature-dependent resistance of the temperature sensor transformed by the transmitter unit adapted to detect the temperature-dependent sensor signal.

13. The system according to claim 4, wherein the transmitter unit includes an oscillator circuit, the system

further comprising means for determining a frequency of a periodic reply signal to detect the temperature-dependent sensor signal.

14. The system according to claim 1, wherein the signal processor includes means for determining the temperature in accordance with the sensor signals.

15. A system for monitoring a temperature prevailing in a stator unit of an electronic drive, comprising:

position measuring means connected to the drive including signal processing means;

electrical transmitting means; and

temperature sensing means integrated into windings of the stator unit for delivering a temperature-dependent sensor signal, the electrical transmitting means for inputting the sensor signal into the signal processing means.